

CLAIMS

What is claimed is:

- 5 1. A method for encoding signals in a Code Division Multiple Access communication system comprising:
- 10 (a) encoding a first communication signal with a first pseudorandom noise (PN) sequence;
- (b) generating an exhaustive list of other PN sequences of the same length as the first PN sequence;
- 15 (c) selecting, from the exhaustive list, a subset of PN sequences that have a lowest possible cross correlation with the first PN sequence; and
- (d) encoding a second communication signal using a selected one of the PN sequences from the subset having lowest possible cross correlation.
2. A method as in claim 1 wherein step (a) additionally comprises:
- (i) Walsh encoding a first input signal;
- (ii) modulating the Walsh encoded first input signal with the first PN sequence.
- 20 3. A method as in claim 1 wherein step (d) additionally comprises:
- (iii) Walsh encoding a second input signal;
- (iv) modulating the Walsh encoded second input signal with the selected one of the PN sequences from the subset.
- 25 4. A method as in claim 1 wherein step (b) additionally comprises:
- (v) correlating the first communication signal with other PN signals encoded with selected one of the other PN sequences of the same length as the first PN sequence.
- 30

5. A method as in claim 1 wherein a bit order of the first communication signal and the second communication signal are scrambled.
6. A method as in claim 1 wherein the first communication signal and the second
- 5 communication signal are modulated onto an identical radio frequency carrier signal.

2004-000-2293